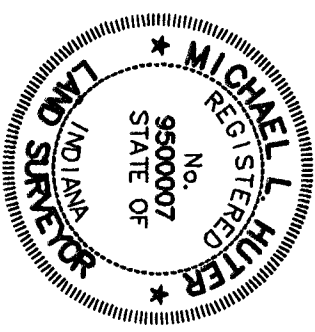


Revisions and Dates	

LAST REVISION:

PROFILE:

POST-CONSTRUCTION SURVEY OF  
SANITARY SEWER FORCE MAIN SYSTEM  
TOWN OF PRINCE'S LAKES, NINEVEH TOWNSHIP, JOHNSON COUNTY, IN.  
SURVEYOR'S CERTIFICATION & SURVEYOR'S REPORT



SHEET 65 OF 65

**RLS**  
RECOMMENDED LAND  
SURVEYING, INC.  
4332 LUCKY CT.  
INDIANAPOLIS, IN. 46203  
(317) 440-5709

DATE: AUG. 11, 2005

JOB # 2005\_022

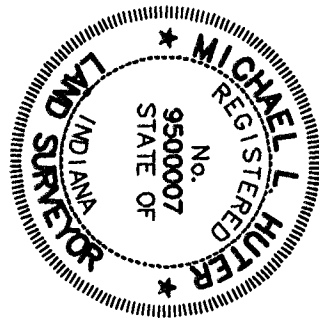
DRAFTING: MLH

CHECKED BY: MLH

CERTIFICATE OF SURVEY

I, the undersigned, a Registered Professional Land Surveyor of the State of Indiana, do hereby certify that this represents a true and correct Post-Construction Survey made on the ground under my direct supervision during the weeks of April 6 through June 1, 2005. Neither a current Title Commitment or Mortality Deed were provided by the client for review of any easements, restrictions, or covenants encumbering the subject real estate.

Certified this 11th day of August, 2005



Certified this 11th day of August, 2005  
RLS Corporation  
  
Michael L. Huter, RLS  
Professional Land Surveyor No. 9500007  
State of Indiana

SURVEYOR'S REPORT

The purpose of this Survey was to locate approximately 12 miles of an existing sanitary sewer force-main system in the Town of Princes Lakes, Nineveh Township, Johnson County, Indiana. The force-main's location was determined by locating markings provided by 4D Consulting (4D) who utilized state-of-the-art utility locating instruments that measure peak and null positions of utility lines by tracing electromagnetic signals. Direct connection to the tracer wires associated with the sewer lines were used. A low frequency tracing signal of 1 kilohertz was applied to the tracer wire whenever possible to minimize signal bleed over to other utilities in the immediate area. At the time the locating activities were on going, the Princes Lakes area, soil conditions were moist which aided in achieving good signal locating results. Surface subsidence and depth measurements were attempted at approximately 50-foot intervals. The location and depth determinations of the tracer wires associated with the sewer line could not be determined for approximately 22% of the Princes Lakes sewer system.

4D marked its location of tracer wire detection of the force-main approximately every 50 feet with point and wire flags. The positions of the point markings and wire flags were established using Survey-Grade Global Positioning Systems (GPS) and conventional Electronic Data Collection Survey Equipment. These Survey-located positions of 4D's markings comprise the foundation of the Survey database.

The Survey is referenced horizontally to Global Positioning System (GPS) Survey Monumentation established in the Indiana High Accuracy Reference Network (HARN). The Survey database is referenced horizontally to Indiana State Plane Coordinates East Zone North American Datum of 1983 (NAD83). The Survey database is referenced vertically to North American Vertical Datum of 1988 (NAVD88). The horizontal and vertical control network was established by first establishing a network of eight (8) control points whose positions were determined by means of a static GPS Survey. Two (2) HARN Points (DECALB and COL MUN AIRPORT) were used as static base monuments. Once the positions of the static network monuments were established a Real Time Kinematic (RTK) Survey was conducted to establish additional control points, which would later be utilized by conventional Electronic Data Equipment.

The relative accuracy of the GPS-established Survey Control Points is  $\pm 0.012$  feet both horizontally and vertically. The relative accuracy of the position of the existing ground surfaces located during this Survey is  $\pm 0.25$  feet both horizontally and vertically. The accuracy of the position of the sanitary sewer force-main tone wire is only as accurate as the depth and horizontal location determined by 4D (see 4D contact data below). The elevation of the sanitary sewer force-main tone wire was determined by subtracting the depth of the tone wire (as determined by 4D) from the existing ground elevation determined by RLS. Elevations are depicted to the nearest 0.01' and do not necessarily represent the accuracy of the data. Tracing wire depths are depicted to the nearest 0.10' and do not necessarily represent the accuracy of the data.

4D Consulting, Inc. contact data

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